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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO.  |  |  |
|---|-------------|----------------------|---------------------|-------------------|--|--|
| 10/518,791  | 08/21/2005  | Edward J. Sare       | 07811.0020-00       | 8246              |  |  |
| 22852   | 7590        | 12/17/2009           | EXAMINER            |                   |  |  |
| FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER<br>LLP<br>901 NEW YORK AVENUE, NW<br>WASHINGTON, DC 20001-4413 |             |                      |                     | BRUNSMAN, DAVID M |  |  |
| ART UNIT  |             | PAPER NUMBER         |                     |                   |  |  |
| 1793  |             |                      |                     |                   |  |  |
| MAIL DATE   |             | DELIVERY MODE        |                     |                   |  |  |
| 12/17/2009  |             | PAPER                |                     |                   |  |  |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/518,791             | SARE ET AL.         |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | David M. Brunsman      | 1793                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 15 September 2009.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) 13-16, 18, 19, 21-36, 39, 40, 42 and 43 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-12, 17, 20, 37, 38, 41, 44 and 45 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) 1-45 are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|   | 6) <input type="checkbox"/> Other: _____ .                        |

Applicant's response filed 9-15-2009 has been carefully considered. The examiner's response to the arguments made is set forth in the statements of the rejections below. Following applicant's election without traverse of group I in the reply filed on 12 September 2008 claims 1-12, 17, 20, 37, 38, 41, 44 and 45 are under consideration.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 and 44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The application, as originally filed, lacks antecedent basis for an average particle size of 1.0 microns. In particular, there is no basis in the original filing to support the degree of precision 1.0 indicates. Every disclosure of the original application recites simply the integer "1". There is no evidence of record to suggest that the inventors intended the specification to indicate a level of precision any higher than that indicated by the ordinary meaning of the term. This new matter must be cancelled in response to this office action. Claims 1, 44 and the claims dependent therefrom have been treated below as if this new matter has already been cancelled from the claims.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 44 and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5393340.

Table VI of the patent discloses a number of calcined kaolin (metakaolin) products having an 80%/20% particle size distribution ration of 1.9-3.1 and having median particle size distributions that round to 1 micron.

The preferred range of 0.66-0.79 microns in the reference falls within the scope of "about 1 micron." The term "1 micron" possesses only one significant figure and includes 0.50 to 1.4999999.... . Furthermore, the term "about" allows further leeway as modifying "1". Applicant has not pointed to any evidence of record showing that one of ordinary skill in the art would consider 0.79 microns to be outside the scope of "about 1 micron":.

Figures 1 and 2 of the patent depict products according to the invention as plate-shaped particles, anticipating a shape factor of at least 10. US 6136086 is cited as factual evidence that at least the Ansilex™ 93 example of Table VI has a oil absorption within the scope of the instant claims (105-120%). The similar disclosed uses as hiding pigments also suggest that the materials of the patent and those of the instant claims share characteristics.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12, 17, 20, 37, 38 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5393340, as applied above, in view of US 6312511.

The difference between claims 37 and 38 and the primary reference is the source of the clay employed. Column 5, lines 20-26 of 6312511 teach that clays of the Rio Capim region have a number of particularly valuable properties. (Examiner's analysis of the scope and content of the prior art) It would have been obvious to one of ordinary skill in the art to employ Rio Capim clay in the process of the first patent for that reason. (Examiner's analysis of the level of ordinary skill in the art)

Independent claims 1 and 41 differ from the primary reference in that they limit the amount of alkali and alkaline earth metal to less than about 1.0%. As there is no recitation of removing alkali and alkaline earth from the Rio Capim clays *in the instant specification*, the evidence of record indicates that such clays naturally include less than about 1.0% alkali and alkaline earth metals.

Applicant argues that the examiner improperly relies on a finding of inherency with respect alkali content of Rio Capim clay. This argument is unpersuasive. Absent evidence to the contrary, the instant specification is treated as if fully descriptive and enabling of the instant invention. The instant specification does not describe a step of

Art Unit: 1793

removing alkali or alkaline earth content from the Rio Capim clays used therein. Nor, does the instant specification teach methods enabling one of ordinary skill in the art to ensure that the clays used have their alkali/alkaline earth content reduced to the recited values. Applicant has presented no evidence that given the disclosure of the instant specification, one of ordinary skill in the art would know that the alkali and alkaline earth metal content of the Rio Capim clays must be reduced or the manner by which they should be treated.

As set forth above, it would have been obvious to one of ordinary skill in the art to employ Rio Capim clay. The limitation on the level of alkali and alkaline earth metals would flow naturally from modification that the '511 patent would motivate one of ordinary skill in the art to make.

Claims 17 and 20 recite an intended future use of the claimed product and do not introduce limitations to the material itself that would take it outside the scope of the patent disclosure.

The difference between the prior art relied upon and claims 8-11 is the amount of mullite in the product. As the patent teaches that the process should be operated to avoid the formation of mullite and thereby avoid forming a more abrasive product, it is assumed that the product of the invention is substantially free of mullite. Column 2, lines 22-29 of the patent, however, do teach that "fully" calcining the kaolin to the mullite stage forms a product that is not just more abrasive but, also brighter. It would have been obvious to one of the level of ordinary skill in the art to balance the expected abrasiveness of the product to achieve an increased brightness because the patent

teaches both the result of a more extensive calcination and the method by which it would be done.

With respect to claim 37, paragraph [022] of the instant specification defines the term "fully calcined" as heating a hydrous kaolin to temperatures above 900-950 C resulting in further structural changes to the metakaolin, such as densification. It appears from this passage that "full calcination" may require temperature as low as 900 C or higher than 950 C depending upon some undisclosed variable or condition

Paragraph [022] of the instant specification indicates that the term "partially calcined" frequently means a dehydroxylated product heated to a temperature below a maximum of 850-900 C to form metakaolin. Using this passage, a material heated to a maximum of 851 may be more than "partially calcined" or it may require heating to a temperature over 900 C to be more than "partially calcined". There is no explanation provided to identify a material that may be partially calcined at 851 C, but not yet fully calcined at greater than 900-950 C.

Paragraph [023] of the instant specification discloses that "additional calcination" may cause the formation of mullite. It is not clear if this is additional as compared to "fully" or "partially". This paragraph is construed as disclosing, at least, that the formation of mullite is one of the "further structural changes" that indicate full calcination

Table VI of the reference describes materials treated according to Example 1 of the reference. In Example 1, a hydrous kaolin is heated to 875 C for one hour. The patent does not explicitly call this product either "fully" or "partially", but describes it a "metakaolin". Within applicant's definitions, this material could be identified as "partially

calcined kaolin" per se or, apparently, another species of a "more than partially calcined" kaolin (if its maximum temperature necessary for virtual dehydroxylation is 850-874 C). In one instance, it appears that the definition of "fully calcined kaolin" in the specification is indefinite in scope and meaning.

The material of the prior art falls range that could be partially calcined or could be more than partially calcined, i.e. fully calcined. Perhaps, only part of the material is fully calcined. As the scope of the claim relying on paragraph [022] cannot be precisely determined, the scope of the claim, construed in the broadest reasonable manner, is found to include the products of Table VI. Furthermore, as discussed with respect to claims 8-11, modification of the process to balance the level of brightness with abrasiveness by optimizing the amount of mullite formed (a marker of the extent of calcination) would have been obvious to one of ordinary skill in the art.

Claim 37-38 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As shown above, the definition of "fully calcined" relied upon fails to clearly define the limits of the term in claim 37. Claim 38 dependent therefrom, does not cure this defect.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Brunsman whose telephone number is 571-272-1365. The examiner can normally be reached on M, Th, F, Sa; 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David M Brunsman/  
Primary Examiner, Art Unit 1793

DMB